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(58) Field of Search

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(54) Abstract Title

Safety armband

(57) A safety armband for use in low light conditions. The armband includes an inner strip 1 and outer strip (2, fig 2) sealed along their edges to form an elongate pocket, a self-coiling strip (8, fig 4) located in the pocket between the flexible strips, and at least one light source (25, fig 4). The self coiling strip causes the armband to curl and grip the arm of the wearer, and may also be configured to adopt a curved cross-sectional shape when straightened out whereby it can maintain the straight position. Preferably there are a plurality of light sources in spaced positions along the armband. These light sources may consist of LEDs and can be transmissible though the outer strip of material.

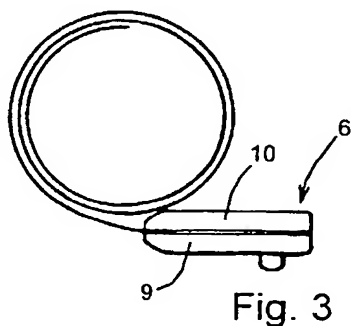


Fig. 3

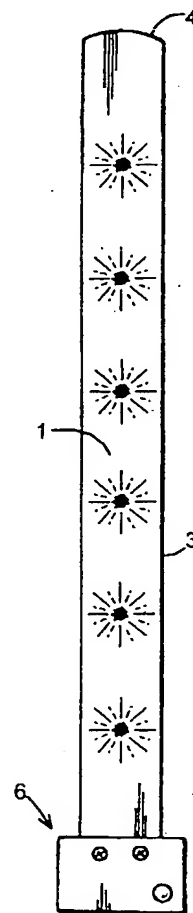
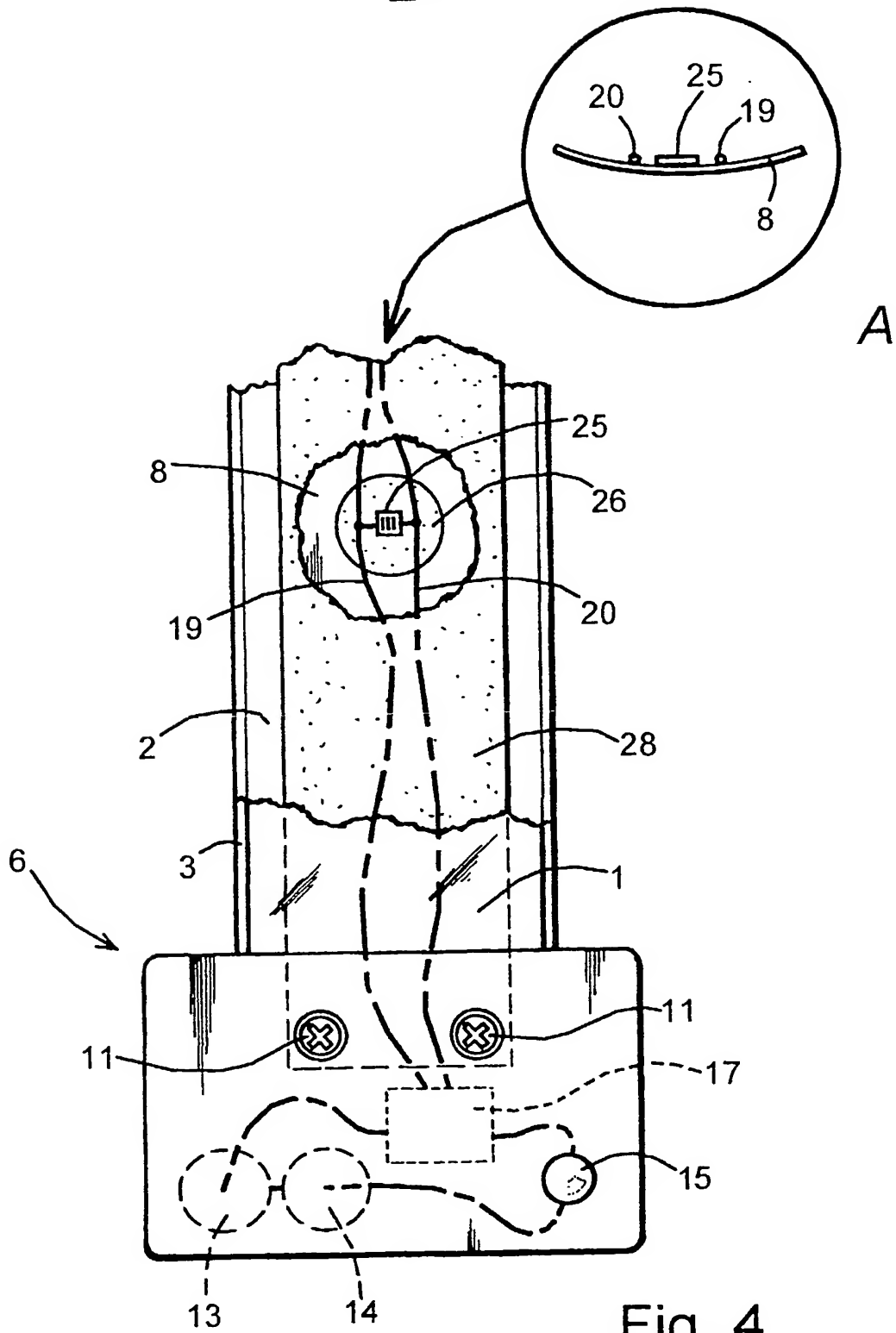


Fig. 1

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The armband preferably includes a plurality of light sources in spaces positions along the strips to further increase visibility.

The self-coiling strip preferably adopts a curved transverse shape when straightened out whereby the self-coiling strip remains in a straight configuration.

In a preferred form of the armband there is a rigid housing secured at one end of the strips, which are preferably inserted between parts of the housing. The housing may contain one or more electrical cells which supply power to the or each light source.

The housing preferably includes a cover which is removable to provide access to a battery compartment containing the cell or cells so that the cells can be changed when necessary.

In a preferred form of the invention the housing may contain an electronic flasher device arranged to supply pulsed power to the or each light source so that the or each light source is caused to flash. This may increase visibility whilst at the same time reducing power consumption.

The housing may also include an on/off switch.

The or each light source is preferably connected to a pair of flexible conductors which travel along the strips, preferably inside the pocket formed by the flexible strips.

Figure 4 is an enlarged detail of the lower end of the armband as viewed in Fig. 1, shown partially cut-away, and including an inset sectional detail A.

DETAILED DESCRIPTION OF THE DRAWINGS

Considering **Fig.s 1 to 3** together, the safety armband has two superimposed elongate outer and inner strips 1 and 2 of moisture-impermeable flexible plastics sheet such as pvc. The outer strip 1 is formed of a yellow light-transmissive material having a smooth front surface, its rear surface being textured to form a multiplicity of miniature lenses which render the material highly reflective. The inner strip 2 need not be light-transmissive or reflective and could simply be an opaque pvc strip. The two strips 1 and 2 are joined along their opposed longitudinal edges by a continuous heat seal 3 which also extends around one end 4 of the superimposed strips so that the two strips form an elongate pocket which is open at one end. The open end is inserted into a two-part moulded plastics housing 6 of a generally planar-rectangular configuration.

Referring to **Fig. 4**, the pocket formed by the two strips 1 and 2 contains an elongate self-coiling metal strip 8. The self-coiling nature of the strip 8 causes the armband to adopt the curled configuration shown in **Fig. 3** to grip the arm of a wearer with the outer strip 1 facing outwards. When the strip 8 is coiled it has a straight transverse cross-section, but when the strip is straightened out it becomes arcuate in transverse cross-section as shown in the inset detail A, which thus retains the armband in a straight

low light conditions, or even complete darkness, and there are no catches or buckles to connect. The reflective outer surface of the armband combined with the flashing LEDs ensures that the wearer has good visibility. Since the LEDs only operate in a pulsed manner the power consumption of the armband is low giving a long operating life before the cells 13 and 14 need replacing. The armband can be worn in the rain since it is sealed to prevent moisture reaching the electrical components.

It will be appreciated that the features disclosed herein may be present in any feasible combination. Whilst the above description lays emphasis on those areas which, in combination, are believed to be new, protection is claimed for any inventive combination of the features disclosed herein.

housing contains at least one electrical cell to supply power to the or each light source.

7. A safety armband according to Claim 6, in which the housing includes a cover which is removable to provide access to a battery compartment containing said at least one electrical cell.

8. A safety armband according to any of Claims 4 to 7, in which the housing contains an electronic flasher device arranged to supply pulsed power to the or each light source causing it to flash.

9. A safety armband according to any of Claims 4 to 9, in which the housing includes a switch for controlling the supply of electrical power to the or each light source.

10. A safety armband according to any preceding claim, in which the or each light source is connected to a pair of flexible conductors which travel along the strips.

11. A safety armband according to Claim 10, in which the flexible conductors are contained within the pocket formed by the flexible strips.

12. A safety armband according to any preceding claim, in which the two flexible strips which form the elongate pocket are formed of moisture-impermeable plastics material.

13. A safety armband according to Claim 12, in which the exposed



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Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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A44C 5/00,
F21L 4/00, 11/00

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	GB 2336096 A (BROWN) see whole doc	1 at least
A	GB 2273765 A (DAKIN) see whole doc	
A	DE 3146699 A1 (BOSS) see whole doc	
A	FR 2565665 A1 (CARNE) see whole doc	
A	FR 2340503 A1 (MIGURAS) see whole doc	
A	NL 1005469 C (KOSTER) see whole doc	
X	JP 080016118 A (SEKISUI CHEMICAL CO LTD) see e.g. figs 4 and 7a-b	

X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.

& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

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